

Claims

5 1. Method for manufacturing multiple channel membranes, wherein a solution of a polymer which forms a semi-permeable membrane after coagulation, is extruded through an extrusion nozzle wherein several hollow needles are arranged, a gas containing coagulating vapour or a coagulating liquid is injected through the hollow needles into the extruded material during extrusion, so that parallel continuous channels extending in extrusion direction are formed in the extruded material, and the outer surface of the membrane is brought into contact with coagulation agents characterized in that the outer surface of the membrane after it leaves the
10 extrusion nozzle is first brought into contact with a mild coagulation agent such that the shape of the membrane is fixed without an active layer being formed on the outer surface of the membrane and subsequently the membrane is brought into contact with a strong coagulation agent.

15 2. Method according to claim 1, wherein the mild coagulation agent is water vapour.

20 3. Method according to claim 1 or 2, wherein the mild coagulation agent is a liquid which is applied on the extruded material by means of an additional outlet on the circumference of the extrusion nozzle.

25 4. Method according to any one of the claims 1-3, wherein on the channel side an (additional) separating layer is made through coating.

5. Method according to any one of the claims 1-4, wherein the extrusion nozzle at the circumference is provided with elevated portions, so that a

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membrane having recessed portions in the outer circumference extending in the extrusion direction, is obtained.

6. Membrane obtained with the method according to any one of the claims 1-5.

7. Cylindrical multiple channel membrane having four or more channels, which can be obtained by using the method according to any one of the claims 1-5, wherein the active layer is arranged in the channels and the outer surface with respect to the active layer in the channel has no or hardly any resistance against liquid flows.

8. Flat channel membrane having recessed portions without channels extending parallel to the channels, which can be obtained by using the method according to claim 5, wherein an active layer is arranged in the channels and the outer surface with respect to the active layer in the channels has no or little resistance against flows of liquid.

9. Spiral-wound filtration element, containing one or more flat membranes according to claim 7 that are wound around a central axis and having the channels in the direction of the axis of the winding.

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10. Use of a membrane according to any one of the claims 6-8 or an element according to claim 9 in the filtration of suspended solids or particles, or the separation of solutes and liquids, of liquids and liquids and of liquids and gasses, and of gasses and gasses.